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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,083	03/01/2002	Katsuhide Oshima	220204US0	9118

22850 7590 09/30/2003

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ALEXANDRIA, VA 22314

EXAMINER

OLTMANS, ANDREW L

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 09/30/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,083

Applicant(s)

OSHIMA ET AL.

Examiner

Andrew L Oltmans

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4,5,8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group III, claims 11-26 in Paper No. 7, filed July 25, 2003 is acknowledged. The traversal is on the ground(s) that the Office has not provided adequate reasons and/or examples to support a conclusion of patentable distinctness between identified groups. This is not found persuasive because the groups as defined in the previous Office Action are distinct inventions for the reasons set forth in the previous Office Action.

The applicant argues that the alternative use identified as coating a substrate "other than zinc alloy plating" is insufficient to sustain the restriction requirement between Groups I and III. The examiner disagrees. One of ordinary skill in the art would understand that "other than zinc alloy plating" defines a distinct invention, namely coating of a substrate other than zinc (e.g. aluminum, bare steel, titanium, nonmetallic substrate, etc...). As one of ordinary skill in the art would understand, the interactions of the processing solution and the substrate vary substrate by substrate because the coating solution results in a conversion coating. For example, the *conversion coating* resulting on an aluminum substrate would be different than the coating resulting on a zinc substrate. Therefore, the restriction between Groups I and III is proper.

The applicant argues that the alternative method of making is insufficient to sustain the requirement between Group II and III because there is no evidence of record to show that the product can be made by one of these alternatives. The examiner disagrees. The inventions are materially different because the alternative processes set forth in the previous Office Action can make the product. With respect to the argument that there is insufficient evidence that the

Art Unit: 1742

product can be made by the alternative “Examiners must provide reasons and/or examples to support conclusions, but need not cite documents to support the restriction requirement in most cases.”, MPEP 803. In this case, the examiner provided reasons and examples of why the inventions are distinct. Particularly that the product may be made by a materially different process and provided examples such as an alternative solution (i.e. a solution resulting in the structure recited in claim 8-10), an alternative mode of coating (i.e. by a method other than immersion). These reasons and examples are sufficient to establish that the inventions are distinct and the restriction between Groups II and III is proper.

The applicant argues that Groups I and II are not unrelated. The examiner disagrees. “Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects. (MPEP § 806.04, MPEP § 808.01).” MPEP 808.01. The applicant argues that the inventions must be form “completely different technical fields.” However, MPEP 808.01 does not have such a requirement. As recited in the previous Office Action, “[I]n the instant case the [] the processing solution may be used to form conversion films on surface other than zinc plating layer, and the film does not require the component of the processing solution” (i.e. the inventions have different modes of operation, different functions or different effects). Therefore, the restriction between Groups I and II is proper.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Claims 11 (line 8) and 18 (line 11) recite the phrase, "a hardly soluble metal salt with oxalic acid", rendering the claims indefinite because it is unclear what the phrase means. First, the phrase refers to the exclusion of a "hardly" soluble metal, wherein the term "hardly" does not indicate what degree of solubility (i.e. is it high solubility or low solubility), even when read in view of the specification. Second, the phrase includes "with oxalic acid" rendering it unclear what solubility the phrase refers to. For example, is the metal salt "hardly soluble" in the treatment solution or just oxalic acid?

- b. Claims dependent upon the above are likewise rejected under this statute.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1742

Preikschat et al. 6,287,704

4. Claims 11-12, 14-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preikschat et al. 6,287,704 (Preikschat; cited in IDS filed April 25, 2003).

Preikschat teaches a method of coating a zinc or zinc alloy (col 5, lines 62-63) with a conversion coating (col 4, line 31) wherein the method includes the step of contacting the zinc or zinc alloy substrate with a composition of a trivalent chromium complex of Cr^{3+} and chelate ligand, wherein the ligand includes oxalic acid, as recited in claim 11 (col 5):

In a method according to the invention, a metallic surface preferably is treated with a solution of at least one chromium (III) complex and at least one salt, wherein chromium (III) is present in the solution in a concentration of approximately 55 5 to 100 g/l; and the chromium (III) complex has ligand replacement kinetics more rapid than the fluoride replacement kinetics in chromium (III)-fluoro complexes. This

and (col 6):

In the method the chromium (III) complex preferably has chelate ligands which are selected from the group consisting of oxalic, malonic, succinic, glutaric, adipic, pimelic, 10 suberic, azelaic and sebacic acids, mixtures thereof, and in mixed complexes with inorganic anions and H_2O .

Preikschat additionally teaches that a metal compound is included in the composition, wherein the metals include cobalt, as instantly claimed in claim 11 (col 5):

Art Unit: 1742

For enhanced corrosion protection the conversion layer may additionally contain one or more components selected from the group consisting of silicate, cerium, aluminum, and borate. The conversion layer may contain cobalt or one or more metal compounds having valences of 1 to 6. The conversion layer may include one or more metal compounds selected from the group consisting of Na, Ag, Al, Co, Ni, Fe, Ga, In, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Zr, Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, and W.

Preikschat teaches an example, wherein the metal compound is cobalt, the ratio between the trivalent Cr and chelate is within the claimed amount, the pH is 2.0, and the time of immersion is 60 seconds, as recited in claims 11-12, 15 and 17 (col 11):

50 g/l $\text{CrCl}_3 \cdot 6 \text{H}_2\text{O}$ (trivalent chromium salt)
3 g/l $\text{Co}(\text{NO}_3)_2$
100 g/l NaNO_3
31,2 g/l malonic acid
previously adjusted to pH 2.0 with sodium hydroxide solution. Immersion time was 60 s. Following rinsing and drying

(see also col 5, lines 64-68; col 6, lines 28-31; col 7, lines 22-24)

Preikschat teaches that the composition includes chloride (e.g. HCl), sulfate (H_2SO_4) and nitrate (H_2NO_3), as recited in claim 14 (col 5):

The conversion layer may include one or more ions selected from the group consisting of chloride ions, sulfate ions, phosphate ions, diphosphate ions, linear and cyclic oligophosphate ions, linear and cyclic polyphosphate ions, hydrogen phosphate ions, and silicate anions.

(see also col 5, lines 27-32)

Art Unit: 1742

Preikschat fails to meet all the limitations of the instant claims in that Preikschat does not explicitly teach an embodiment encompassing all of the claimed elements or the lack of “any precipitation due to formation a hardly soluble metal salt with oxalic acid”.

However, one of ordinary skill in the art would have found the invention to be obvious because one of ordinary skill in the art would have been motivated to use cobalt in the metal compound because the Examples include an example drawn to cobalt (col 11, lines 13-17) and the cobalt additive increases corrosion protection (col 5, lines 17-18). With respect to oxalic acid, the Cr(III) complex is taught as formed from the inclusion of compounds that include dicarboxylic acid (col 6, lines, 1-3), wherein the complex forming compounds that are preferred include oxalic acid (col 6, lines 7-9).

With respect to the lack of precipitation instantly claimed, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process steps taught by the reference are the same as the process steps recited in the claims (i.e. contacting the zinc or zinc alloy with a trivalent chromium complex containing Co) and therefore one of ordinary skill in the art would expect that the products resulting from the process taught by the reference would be the same as the product resulting from applicant's claimed process, including the lack of “any precipitation due to formation a hardly soluble metal salt with oxalic acid” in the treatment bath.

“Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best 195 USPQ 430, 433 (CCPA 1977).” see MPEP 2112.01. [emphasis added by examiner]

Art Unit: 1742

Huvar 4,349,392

5. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huvar 4,349,392 (Huvar).

Huvar teaches a method of coating a zinc or zinc alloy (col 2, lines 51-57) with a conversion coating (col 2, lines 63-68) wherein the method includes the step of contacting the zinc or zinc alloy substrate with a composition of a trivalent chromium trivalent chromium, an organic carboxylic acid, which includes oxalic acid, and a method ion that includes cobalt, as recited in claim 11 (col 3):

The concentration of the trivalent chromium ions in the treating solution may range from as low as about 0.05 g/l up to saturation with quantities of about 0.2 to 2 g/l being preferred. Typically, the operating bath contains from about 0.5 to about 1 g/l trivalent chromium ions. 55

and (col 3):

chromate film on the metal surface, a bath soluble and compatible organic carboxylic acid present in an amount effective to impart initial hardness and clarity to the passivate film of the structural formula: 15



20

wherein:

a is an integer from 0 to 6;

b is an integer from 1 to 3; and

R is an alkyl, alkenyl, or aryl containing from C₁ to C₆ carbon atoms; 25

as well as the bath soluble and compatible salts thereof;

at least one additional metal ion selected from the group consisting of iron, cobalt, nickel, molybdenum, manganese, lanthanum, cerium and lanthanide mixtures of rare earth metals as well as mixtures thereof present in an amount effective to impart integral hardness to the gelatinous chromate film. The treating solution may 30

Art Unit: 1742

(see also col, lines 7-8)

Huvar teaches a pH within the pH instantly claimed, as recited in claim 15 (col 3):

state, hydrogen ions to provide a pH of from about 1.2
to about 2.5, an oxidizing agent in an amount effective

Huvar teaches that the composition may include sulfuric acid, nitric acid or hydrochloric acid, as
instantly claimed 14 (col 3):

range can be achieved by a variety of mineral acids and a
organic acids such as sulfuric acid, nitric acid, hydro- c
chloric acid, formic acid, acetic acid, propionic acid and 65 r
the like of which sulfuric acid and nitric acid are pre- f
ferred. The presence of sulfate ions in the bath has been ir

(see also col 4, lines 1-5)

Huvar further teaches an example, wherein the metal compound is cobalt, the ratio between the
trivalent Cr and the organic carboxylic acid is within the claimed amount (col 8):

CONCENTRATE A		
	INGREDIENT	CONCENTRATION, g/l
5	Cr ⁺³	24
	CoSO ₄ ·7H ₂ O	25
	Ferrous ammonium sulfate	12
	Sodium fluoroborate	15
	Succinic acid	25
10	Nitric acid (100%)	60

and (col 7):

the operating bath. Typically, a bath make-up concen-
trate can contain from about 10 to about 80 g/l chro-
mium ions, from about 1.0 to about 80 g/l of the organic
carboxylic acid and/or salt additive agent, from about 5
to about 50 g/l of at least one additional metal ion of the 35
group consisting of iron, cobalt, nickel, molybdenum,
manganese, lanthanum, lanthanide mixture or mixtures
thereof, halide ions up to about 50 g/l and a suitable
surfactant in an amount up to about 5 g/l if employed.

Art Unit: 1742

Huvar teaches the temperatures and time of contact instantly claimed, as recited in claim 17 (col 2, lines 31-39).

Huvar fails to meet all the limitations of the instant claims in that Huvar does not explicitly teach an embodiment encompassing all of the claimed elements, the formation of a complex, the lack of "any precipitation due to formation a hardly soluble metal salt with oxalic acid" or the exact compositional ranges of trivalent chromium, oxalic acid and inorganic salt (claims 13 and 16).

However, one of ordinary skill in the art would have found the invention to be obvious because one of ordinary skill in the art would have been motivated to use cobalt in the metal compound because the Examples include an example drawn to cobalt (col 8, lines 1-10) and the cobalt activates the bath and helps form the passivate film of desired appearance (col 2, lines 23-28). With respect to oxalic acid, the formula recited encompasses oxalic acid and helps provide initial hardness and clarity to the passivate film (col 2, lines 7-11).

With respect to the lack of precipitation instantly claimed, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process steps taught by the reference are the same as the process steps recited in the claims (i.e. contacting the zinc or zinc alloy with a composition including trivalent chromium, organic carboxylic acid (i.e. oxalic acid) and cobalt) and therefore one of ordinary skill in the art would expect that the products resulting from the process taught by the reference would be the same as the product resulting from applicant's claimed process, including the formation of the chromium complex and the lack of "any precipitation due to formation a hardly soluble metal salt with oxalic acid" in the treatment bath.

Art Unit: 1742

“Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best 195 USPQ 430, 433 (CCPA 1977).” see MPEP 2112.01. [emphasis added by examiner]

With respect to the compositional ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the coating composition constituent concentrations taught by the reference overlap those of the instant claims, In re Peterson, 65 USPQ2d 1379, In re Malagari, 182 USPQ 549, and MPEP 2144.05.

Preikschat et al. 6,287,704 and Huvar 4,349,392 in view of The ASM Handbook, Volume 13: Corrosion, "Chromate Conversion Coatings: Technology of Chromating Processes", 1992, pages 1-3

6. Claims 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preikschat et al. 6,287,704 (Preikschat; cited in IDS filed April 25, 2003) and Huvar 4,349,392 (Huvar) in view of The ASM Handbook, Volume 13: Corrosion, "Chromate Conversion Coatings: Technology of Chromating Processes", 1992, pages 1-3 (ASM Handbook).

Preikschat teaches and is applied as set forth in paragraph 4, above, as recited in claims 18, 20-22.

Huvar teaches and is applied as set forth in paragraph 5, above, as recited in claims 19-22.

Art Unit: 1742

Preikschat and Huvar fail to meet all the limitations of the instant claims in that Preikschat and Huvar do not explicitly teach the pretreatment and post treatments instantly claimed in claims 18 and 22-26.

ASM Handbook teaches the typical pretreatment and post treatments, including the deoxidizing or desmutting with inorganic acid (i.e. nitric acid) (claim 18), drying (claim 18 and 22), painting (i.e. topcoat of the compositions recited in claims 23-25) and dyeing (i.e. with the solutions recited in claim 26) (page 1-2).

One of ordinary skill in the art would have found the invention to be obvious because one of ordinary skill in the art would have been motivated to use the well-known process sequences known in the art for typical chromating processes, as taught in the ASM Handbook wherein the process steps provides advantages at the various processing steps, as taught in the ASM Handbook page 2-3.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1742

8. Claims 11-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-29 of copending Application No. 10/085,705. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between the claimed method of the instant application and the 10/085,705 reference is the inclusion of "a silicon compound" in the 10/085,705 claims, wherein the inclusion of silicon is not precluded from the open transitional phrase used in the instant claims (i.e. comprising), see MPEP 2111.03.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Oltmans whose telephone number is 703-308-2594. The examiner can normally be reached 7:00-3:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Andrew L. Oltmans

Examiner

Art Unit 1742

September 17, 2003